

NOTES ON BROMELIACEAE, XII

Lyman B. Smith

MEXICO

TILLANDSIA CARLSONIAE L. B. Smith, sp. nov.

Ab omnibus speciebus subgeneris Tillandsiae scapo brevissimo, sepalis magnis densissime cinereo-lepidotis differt.

Stemless, flowering only about 25 cm. high; leaves many in a spreading rosette, 4 dm. long, much exceeding the inflorescence, densely subappressed-lepidote throughout; sheaths broadly elliptic, 7-12 cm. long, dark castaneous; blades straight, narrowly triangular, 25 mm. wide, cinereous; scape very short, completely hidden by the leaf-bases; scape-bracts foliaceous but much reduced, densely imbricate; inflorescence densely digitate from 5-6 spikes; primary bracts broadly ovate with a short linear blade, much shorter than the spikes; spikes elliptic, acute, 10-12 cm. long, 3-4 cm. wide, strongly complanate, dense, about 8-flowered with several sterile bracts at base; axis angled, densely lepidote; floral bracts elliptic, acute, to 5 cm. long, exceeding the sepals, ecarinate, subcoriaceous when dry, roseate, densely cinereous-lepidote; flowers short-pedicellate; sepals free, lanceolate, acute, 40 mm. long, ecarinate, densely cinereous-lepidote; petals naked, erect, linear, 6 cm. long, dark purple; stamens exserted. Pl. I, fig. 1: Spike x 1/2; fig. 2: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,022,737, collected along the Pan American Highway between Las Casas and Comitán, State of Chiapas, Mexico, April 6, 1949, by Margery C. Carlson (No. 1697).

MEXICO: Chiapas: Moist woods, Monte Bello, January 1952, Carlson 219 (US). Amatenango, March 26, 1959, MacDougall 417 (US). Teopisca, April 5, 1959, Van Hynning 5915 (US).

DOMINICAN REPUBLIC

PITCAIRNIA JIMENEZII L. B. Smith, sp. nov.

A P. angustifolia Ait. foliis basi excepta inermibus et a P. cubensis (Mez) L. B. Smith inflorescentia plerumque ramosa, sepalis majoribus differt.

Nearly stemless, flowering 7 dm. high; leaves many in a dense rosette, all alike, persistent, 5-10 dm. long; sheaths ovate, castaneous; blades linear, filiform-acuminate, 18 mm. wide, entire or with a few small teeth at base, soon wholly glabrous; scape erect, slender, red, sparsely white-flocculose at the lower nodes; scape-bracts erect, the lower foliaceous and exceeding the internodes, the upper lanceolate, acuminate, much shorter than the internodes; inflorescence few-branched or sometimes simple, to 22 cm. long, very sparsely white-flocculose, soon glabrous, red; primary bracts like the upper scape-bracts, much shorter than the branches; branches suberect, lax, to 14 cm. long; floral bracts lanceolate, acuminate, the lowest exceeding the pedicels;

pedicels very slender, 5 mm. long; sepals lance-oblong, rounded and apiculate, 20 mm. long, ecarinate; petals linear, 45 mm. long, exceeding the stamens, bearing a truncate scale 6 mm. long at the base; ovary half superior; ovules obliquely alate. Pl. I, fig. 3: Base of leaf x 1; fig. 4: Flower (after photo); fig. 5: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,229,834, collected on the ground at El Choco, Province of Puerto Plata, Dominican Republic, by Luis Ariza-Julia (No. 3713 in Hb. Jiménez). Isotype in Herbarium of José de Js. Jiménez.

VENEZUELA

BROCCHINIA BERNARDII L. B. Smith, sp. nov.

A *B. melanacra* L. B. Smith, cui affinis, foliis subpetiolatis apice haud vel vix atris differt.

Cauliscent (?), the flowering shoot known only from very old fragments but probably small (much less than 1 meter high); leaves over 4 dm. long, entire, obscurely and sparsely lepidote beneath; sheaths narrowly triangular, inconspicuous, dark castaneous toward base; blades subpetiolate, linear-lanceolate, acuminate, 3 cm. wide, flat, green, concolorous or sometimes slightly darkened toward apex; scape unknown; inflorescence evidently small, laxly tripinnate, glabrous (?); axis very slender, flexuous; primary bracts triangular, shorter than the sterile bases of the branches; branches divergent, 6 cm. long; racemes subdense; floral bracts triangular-ovate, about equaling the pedicels; flowers subspreading; pedicels distinct, 1 mm. long; sepals subelliptic, 1.5 mm. long; ovary almost wholly inferior; capsule ellipsoid, beaked, 5 mm. long. Pl. I, fig. 6: Base of leaf x 1/4; fig. 7: Remnants of flower x 2; fig. 8: Seed x 2.

Type in the herbarium of the Universidad de Los Andes, Mérida, collected on the bank of the Río Chirca, upper valley, Urimán, State of Bolívar, Venezuela, altitude 750 meters, August 1953, by Bernardi (No. 954). The name is in honor of Dr. A. L. Bernardi of the Facultad de Ciencias Forestales, Universidad de Los Andes.

PUYA ARISTEGUIETAE L. B. Smith, sp. nov.

A *P. goudotiana* Mez, cui affinis, planta minor graciliorque, sepalis linearibus obtusis differt.

Flowering about 3 meters high; leaves many in a dense rosette, ca. 1 meter long, the outer spreading, the inner erect; blades linear-triangular, over 2 cm. wide, glabrous above, covered with small pale appressed scales beneath and with coarse spreading scales along the margin, laxly serrate with dark curved antrorse spines 6 mm. long; scape erect, straight; scape-bracts densely imbricate but quickly deciduous, broadly ovate with a foliaceous blade; inflorescence bipinnate, cylindrical but not strobilate, over 1 meter long, finely brown-stellate; primary bracts broadly ovate, exceeding the branches, divergent to spreading at anthesis, membranaceous, entire, dark brown at least when dry; branches suberect, laxly few-flowered; floral bracts elliptic,

exceeding the pedicels, membranaceous, dark brown; flowers spreading and decurved at anthesis; pedicels slender, 15 mm. long; sepals linear, rounded and apiculate, 25-27 mm. long; petals showy, 5 cm. long, white, exceeding the stamens, contorted after anthesis; ovary superior; ovules alate. Pl. I, fig. 9: Habit (after photo); fig. 10: Primary bract and spike (after photo); fig. 11: Floral bract x 1; fig. 12: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,269,828, collected on the Páramo de Guirigay, State of Trujillo, Venezuela, altitude ca. 3200 meters, August 1958, by L. Aristeguieta (No. 3539). Dr. Aristeguieta notes that the species is called "Pinuela pitón" and that the central vegetative part is fleshy and edible. It is a pleasure to name this handsome species in honor of one who has done so much to advance our knowledge of the flora of Venezuela.

VENEZUELA: Mérida: Páramo, above "Casita Blanca" on the road to the Sierra Nevada, alt. 2800 m., June 16, 1953, Bernardi 581 (Univ. de Los Andes, Mérida; US phot.).

PUYA VENEZUELANA L. B. Smith, sp. nov.

A P. brachystachya (Baker) Mez, cui affinis, inflorescentia inclinata elongata, sepalis anguste lanceolatis differt.

Flowering nearly 6 dm. high; leaves rosulate, 25 cm. long; sheaths suborbicular, 3 cm. long, glabrous, serrulate toward apex; blades linear, acuminate, pungent, 12 mm. wide, glabrous above, covered beneath with appressed cinereous scales, laxly serrate with spreading antrorse and retrorse brown spines 4 mm. long; scape erect, slender, densely pale-flocculose; scape-bracts erect, densely imbricate, membranaceous, brown when dry, the lowest serrulate and with small foliaceous blades, the highest entire, bladeless, acute; inflorescence more or less nutant, simple, strobilate, cylindric, to 18 cm. long, ca. 2 cm. in diameter, sparsely brown-flocculose; floral bracts like the upper scape-bracts, 45 mm. long, exceeding the sepals; pedicels slenderly obconic, 7 mm. long; sepals narrowly lanceolate, subacute, 18 mm. long, thin; petals over 3 cm. long, naked, blue (! Aristeguieta), contorted after anthesis; stamens included; ovary almost wholly superior; ovules alate. Pl. I, fig. 13: Habit (after photo); fig. 14: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,269,830, collected on rocks, Páramo de Guirigay, State of Trujillo, Venezuela, altitude 3200 meters, August 1958, by L. Aristeguieta (No. 3538).

TILLANDSIA COMPACTA Griseb. var. INTERMEDIA L. B. Smith, var. nov.

A var. compacta omnibus partibus valde majoribus differt.

Approaching Tillandsia ultima L. B. Smith in size of parts but with the more rounded leaves, scape-bracts, and primary bracts of T. compacta Griseb. Dr. Bernardi indicates that the bracts are scarlet.

Type in the New York Botanical Garden, collected on Gaiadendron, State of Mérida, Venezuela, September 17, 1957, by A. L. Bernardi (No. 6214).

VENEZUELA, COLOMBIA

VRIESIA LAXA Mez emend. L. B. Smith

Florifera 23 cm. alta; foliis ad 21 cm. longis; scapi bracteis omnibus imbricatis; bracteis florigeris suberectis et internodiis 4-plo longioribus sed nullo modo imbricatis; pedicellis crassis, 3 mm. longis; sepalis 28 mm. longis.

ARAGUA or CARABOBO: Between Maracai and Choroni, alt. 1000 m., Fendler 2166 in part as to flowering plant and separate inflorescence (GOET, holotype of Tillandsia laxa Griseb. of 1864 and of Vriesia laxa Mez).

The type sheet of Vriesia laxa Mez includes three separate specimens: A, a nearly complete flowering plant, B, a fruiting inflorescence, and C, a complete fruiting plant. A and B are the same species, and I am designating A as the holotype of the emended Vriesia laxa. C is Vriesia scalaris E. Morr. and is the basis for about half of Mez's original description. Mez followed Grisebach's description of Tillandsia laxa, but Grisebach's name does not concern us as it is a later homonym.

Vriesia laxa as now defined keys to V. morreniana hort. ex E. Morr. in my "Bromeliaceae of Brazil." It differs from that species in its slender rhachis and cucullate rather than incurved floral bracts.

VRIESIA ROBUSTA (Griseb.) L. B. Smith, comb. nov.

Tillandsia robusta Griseb. Nachr. Ges. Wiss. Goett. for 1864:15. 1865.

Vriesia chlorantha L. B. Smith, Phytologia 5:286, pl. 2, figs. 9-12. 1955.

VENEZUELA: Aragua (?): Biscaina, alt. 900 m., June 23, 1855, Fendler 1525 (GOETT, type).

COLOMBIA: Cundinamarca: Epiphytic, Sesquilé, Dec. 9, 1950, Schneider 1015 (COL, type of Vriesia chlorantha L. B. Smith, US phot. 4369).

PERU

PUYA GRACILIS L. B. Smith, Contr. Gray Herb. 98:11, pl. 3, figs. 12, 13. 1932.

PERU: Without definite locality, Weberbauer 6474 (F, type, GH photo). Huancavelica: Tayacaja: "Huayo, parte baja del valle del Mantaro entre Colcabamba y Surcubamba, bosque xerófilo," alt. 2100 m., April 16, 1954, Tovar 1857 (US, USM).

Since nearly all Puya species are narrow endemics we can be reasonably sure that Tovar 1857 is a topotype. Furthermore, Weberbauer 6458 is from Huancavelica (cf. Aeschynomene scoparia in V. E. Rudd, Contr. U. S. Nat. Herb. 32:129. 1955) and is within twenty numbers of our type.

PUYA HUANCAVELICAE L. B. Smith, sp. nov.

P. reflexiflora Mez in systema Mezii proxima sed bracteis florigeris magnis, pedicellis longis gracilibusque, sepalis

anguste spathulatis differt.

Known only from fragments but probably flowering 1 meter or higher; leaves over 8 dm. long; blades narrowly triangular, acuminate, pungent, 55 mm. wide, smooth and glabrous above, bearing minute pale brown scales between the nerves beneath, laxly serrate with spreading or ascending slender pale brown spines 4 mm. long; scape stout, soon glabrous; inflorescence simple, subdensely cylindrical, elongate; axis 2 cm. in diameter, finely lanate; floral bracts reflexed, lanceolate, acute, to 8 cm. long, thin, nerved, soon glabrous, dark brown when dry; pedicels arching-decurved, slender, 2 cm. long, finely white-lanate; sepals narrowly spatulate, obtuse, 40 mm. long, finely white-lanate; petals narrowly elliptic, 75 mm. long, naked; stamens included. Pl. I, fig. 15; Floral bract and flower x 1; fig. 16: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,278,704, collected in rocky thicket, Hacienda Tocas, between Colcabamba and Paucarbamba, Province of Tayacaja, Department of Huancavelica, Peru, altitude 2000-3200 meters, April 24, 1954, by Oscar Tovar (No. 2124). Popular name: "Jesje."

BOLIVIA

PITCAIRNIA NANA (Wittm.) L. B. Smith, comb. nov

Puya nana Wittm. Mededeel Rijks Herb. 29:85. 1916; L. B. Smith, Contr. Gray Herb. 104:79, pl. 3, figs. 14, 15. 1934.

The ovary is about 1/4 inferior and the petals are not strongly contorted after anthesis indicating that this species belongs in Pitcairnia rather than in Puya.

AMAZON BASIN

AECHMEA CHANTINII (Carr.) Baker, Handb. Bromel. 49. 1889.

Billbergia chantinii Carr. Rev. Hort. 50:112, fig. 22. 1878; 52:272, figs. 54-56. 1880.

Aechmea amazonica Ule, Verh. Bot. Ver. Brandenb. 48:136. 1907.

COLOMBIA: Amazonas-Vaupés: Epiphytic, Soratama, Río Apaporis, Feb. 14, 1952, Schultes & Cabrera 16114 (COL, US). Amazonas: Epiphytic, Río Carapana between the mouth and El Encanto, alt. 150 m., May 22-28, 1942, Schultes 3822 (GH). Trapecio Amazónico, Loretoyacu River, alt. 100 m., Oct. 1945, Schultes 6599 (US). Interior regions of Trapecio Amazónico between Amazon and Putumayo watersheds, alt. over 100 m., Oct. 1945, Schultes 6893 (US).

PERU: Loreto: Forest, Caballo-cocha on the Amazon River, Aug. 1929, Williams 2220 (F). Forest, Mishuyacu, near Iquitos, alt. 100 m., Oct.-Nov. 1929, Klug 349 (F, US). On large Ficus tree in the inundation belt of a tributary of Río Itaya, Nov. 5, 1940, Asplund 14341 (S, US). San Martin: Epiphytic, Tarapoto, alt. 750 m., Sept. 1902, Ule 6315 (B, type of Ae. amazonica Ule, F photo 11305); same, L. Williams 5913 (F); 6124 (F).

BRAZIL: Amazonas: Cultivated, Dec. 1953, Foster (US, probable descendant of type). Rio Juruá, Ule (obs. in lit.). On Inga, Ilha das Flores, Rio Negro, Feb. 1959, Cavalcante 671 (MG, US).

Plate I

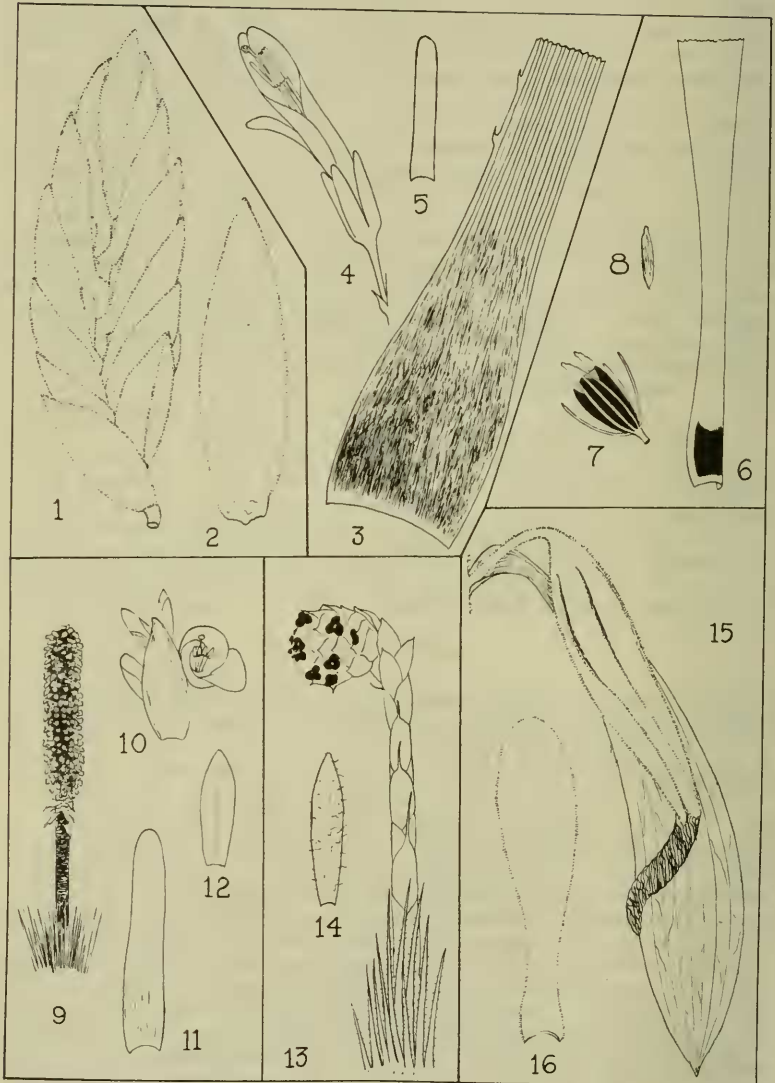


Fig. 1, 2: *Tillandsia carlsoniae*; fig. 3-5: *Pitcairnia jimenezii*;
 fig. 6-8: *Brocchinia bernardii*; fig. 9-12: *Puya aristeguietae*;
 fig. 13, 14: *Puya venezuelana*; fig. 15, 16: *Puya huancavelicae*.